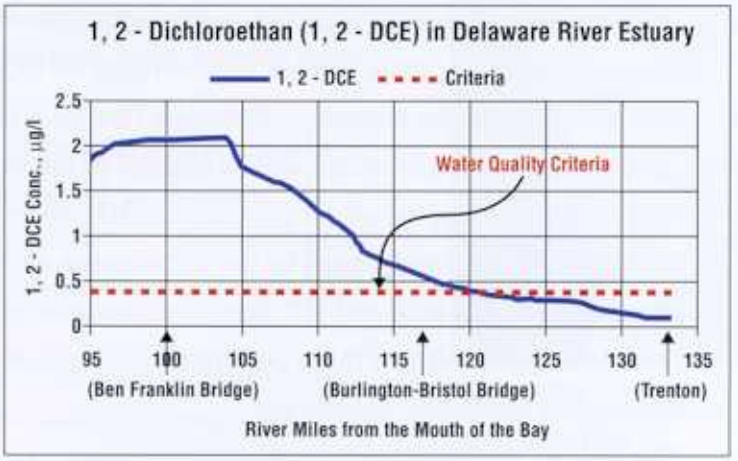
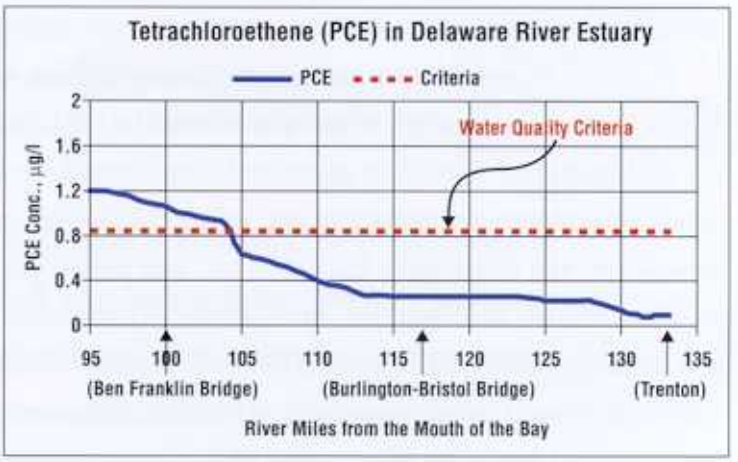
DRBC Takes Action to Control Delaware River Toxics

The commission has taken action to ensure that stream quality objectives for certain toxic pollutants in the tidal Delaware River are met as part of a continuing program to protect human health and aquatic life.

"The move is aimed at protecting the health of some two million people living in southern New Jersey, Delaware, and southeastern Pennsylvania who rely on the Delaware River for drinking water," noted Carol R. Collier, the commission's executive director. She added that the move also is intended to safeguard aquatic life, noting that thousands of people eat fish caught in the river.





By a 5-0 vote, the commission ruled on January 26, 2000 that allocations of waste assimilative capacity are necessary to maintain the stream quality objectives for two substances, 1,2 dichloroethane (DCE) and tetrachloroethene (PCE), in a 38-mile reach of the Delaware from Trenton, N.J., downstream to just above Philadelphia International Airport.

Both pollutants have been identified by the U.S. Environmental Protection Agency as "probable human carcinogens." Both are solvents used in the manufacture of chemicals and in the dry cleaning business.

The commission also determined that allocations of waste assimilative capacity are necessary for acute and chronic toxicity in certain individual discharges in a 85-mile stretch of the river from Trenton downstream to the head of the Delaware Bay, near Liston Point, Del.

Acute and chronic toxicity indicate the combined effect of multiple pollutants on aquatic life.

Assimilative capacity is the ability of a water body to dilute or break down a pollutant to a point where it does not exceed a stream quality objective.

Stream Quality Objectives

Commission staff will provide a numerical value for the assimilative capacity for DCE and PCE which can be used by New Jersey, Delaware, and Pennsylvania in establishing total maximum daily loads (TMDLs) as appropriate under the federal Clean Water Act.

A TMDL is the total amount of a pollutant or pollutants that can be discharged on a daily basis into a river or stream without exceeding that water body's assimilative capacity.

Staff also was directed to establish wasteload allocations (limits on pollutants contained in a discharger's effluent) or other effluent requirements for DCE and PCE. Acute and chronic toxicity load allocations will be set for individual discharges that have been shown to cause an exceedence of the stream quality objectives. The allocations will be referred to the environmental regulatory agencies in the three states for use in developing effluent limitations, schedules of compliance, and other permit requirements.

Under the resolution adopted by the commission on January 26, Executive Director Collier shall require dischargers of DCE and PCE to collect one year of effluent (discharge) data to measure the magnitude and variability of these pollutants. This will be accomplished before wasteload allocations are established for individual discharges.

The actions taken by the commission are intended to ensure compliance with stream quality objectives, or water quality criteria, adopted by the commission in 1996.

Technical issues relating to the commission actions were debated by members of the commission's Toxics Advisory Committee which was created in 1994. Committee members include representatives from the environmental regulatory agencies in the three down basin states, as well as New York State, the regulated community (municipal and industrial dischargers), the environmental community, academia, agriculture, fish and wildlife management, and public health.

After lengthy deliberations, the committee concluded by two separate votes of 8 to 2 (with municipal and industrial members opposed) that "based upon simple mass balances and complex mathematical modeling, the assimilative capacity of the tidal Delaware River has been exceeded for DCE and PCE in Zones 2 and 3 (between Trenton and Philadelphia) under design conditions."

It also concluded, by unanimous vote, that "localized exceedences of the assimilative capacity of the tidal Delaware River for acute and chronic toxicity have been identified for some individual discharges." Commission staff will continue to work with the advisory committee in studying the potential for cumulative impacts of toxicity.

Fish tissue contamination by other toxic pollutants such as polychlorinated biphenyls (PCBs) in the Delaware River has been highlighted in recent years by the issuance of fish consumption advisories. Anglers have been warned either not to eat or reduce consumption of such species as recreational-sized striped bass, catfish, white perch, and American eel.

These other pollutants are being studied by commission staff for future actions that may be necessary to ensure that stream quality objectives for these pollutants also are achieved.